

REMARKS/ARGUMENTS

Brief Summary of Status

Claims 1-13, 23-38, and 64-80 are pending in the application.

Claims 64-80 are allowed.

Claims 1-5, 8-10, 13-32, 34-38 are rejected.

Claims 6, 7, 11, 12, and 33 are objected to.

35 U.S.C. § 103

The Examiner asserts:

“3. Claims 1-3, 9, 23-24, 27, 28-29, 32, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1) in view of Vaisanen et al (US 2004/0192222 A1) and further in view of Gorday et al (US 2004/0203836 A1) and still further in view of Jaffe et al (US 200310231720 A1).” (non-final office action, Part of Paper No./Mail Date 20070331, p. 2)

The Applicant respectfully traverses.

As an example, with respect to the Applicant’s independent claim 1, the Applicant claims subject matter that includes the intended PHY receiver processes the received frame, and the intended PHY receiver is one of a plurality of PHY (physical layer) receivers wherein each PHY receiver of the plurality of PHY receivers is communicatively coupled to the classifier.

In accordance with the subject matter as claimed by the Applicant, there are a number of hardware components (i.e., plurality of PHY (physical layer) receivers), and only one of them (i.e., the intended PHY receiver) is the PHY receiver that performs the full processing of the processes the received frame. While each PHY receiver of the plurality of PHY receivers performs pre-processing of the received frame to calculate a confidence level indicating whether the received frame is intended for that PHY receiver, it is the intended PHY receiver that processes the received frame.

In contradistinction, the teaching and disclosure of Jaffe includes subject matter that includes a number of components of a signal (i.e., sub-channels) and it is one of those components (i.e., the “selected sub-channel” as in FIG. 11, FIG. 12 of Jaffe) that

actually gets processed by a Forward Error Correction (FEC) Processing block in FIG. 11 Forward Error Correction (FEC) Processor in FIG. 12. Of course, in each of those embodiments of Jaffe, a subscriber selection may also select the “selected sub-channel” from among the stream of soft symbol decisions.

For example, Jaffe teaches and discloses:

“The received signal undergoes receiver pre-processing that may include: performing tuning to a particular frequency band, performing carrier frequency recovery, digital sampling using an analog to digital converter (ADC), generating I,Q inputs from a received sampled signal, and generating a stream of soft symbol decisions. The stream of soft symbol decisions is output from the receiver pre-processing functional block and is provided to a PHY sub-channel selection functional block. The selection of the subchannels within this functional block may be performed as directed by a user (or subscriber) that employs a receiver supporting the functionality of the FIG. 11. Alternatively, the selection of the subchannels within this functional block may be performed as directed by decoded information that is fed back from a forward error correction (FEC) processing functional block.

The selected sub-channel is provided to the FEC processing functional block from the PHY subchannel selection functional block. The FEC processing functional block performs the actual decoding of stream of soft symbol decisions provided by the receiver pre-processing functional block that have been selected and assigned to a sub-channel within the PHY sub-channel selection functional block.” (Jaffe, portions of paragraph [0071-0072], emphasis added)

As can be seen, not all of the signal (or the “stream of soft symbol decisions”) gets processed by the forward error correction (FEC) processing functional block. Only the “selected sub-channel is provided to the FEC processing functional block from the PHY subchannel selection functional block”.

The selection is made either by “a user (or subscriber)” or “as directed by decoded information that is fed back from a forward error correction (FEC) processing functional block”.

In either case, it can be seen that this teaching and disclosure is the selection of a portion (i.e., the “selected sub-channel”) of a signal (i.e., the “stream of soft symbol

decisions”) having multiple components (i.e., multiple sub-channels therein), and only the selected portion (i.e., the “selected sub-channel”) of a signal is the one that actually gets processed (i.e., decoded) by the FEC processing block.

In contrast with the Applicant’s claimed subject matter, which includes selecting a hardware component (i.e., an intended PHY receiver) from among a plurality of hardware components (i.e., from among a plurality of PHY (physical layer) receivers) so that the selected hardware component (i.e., intended PHY receiver) performs processing of the received frame, Jaffe teaches and discloses selecting a portion of a signal (i.e., a “selected sub-channel”) from a “stream of soft symbol decisions” that includes a number of sub-channels so that only the selected signal (i.e., a “selected sub-channel”) actually gets decoded by the “FEC processing functional block”.

In other words, the Applicant claims subject matter in which one hardware component of a number of possible hardware components performs the actual processing of the received frame.

Jaffe teaches and discloses the selection of one signal component (i.e., a “selected sub-channel”) from a signal and only that one signal component (i.e., a “selected sub-channel”) actually gets decoded.

The Applicant respectfully believes that Jaffe fails to teach and disclose the subject matter limitation within the Applicant’s claims that the Examiner identifies with Jaffe. In the office action, the Examiner asserts, “Jaffe discloses performing pre-processing functions to a received signal in order to determine such characteristics of the received signal for a subsequent better channel selection process (paragraphs 71-72 and Fig. 1- 12, “receiver preprocessing function block and is provided to a PHY sub-channel selection”).”

The Applicant respectfully points out that, after the pre-processing is performed in FIG. 11 of Jaffe to generate the “stream of soft symbol decisions”, there is no “confidence level” associated with the various sub-channels therein at that point. It is within the “PHY sub-channel selection functional block” in FIG. 11 of Jaffe that one of the sub-channels gets selected, and at that point one of the sub-channels.

As the Applicant cites above, there are 2 means in FIG. 11 by which the sub-channel is selected in Jaffe: “The selection of the subchannels within this functional

block may be performed as directed by a user (or subscriber) that employs a receiver supporting the functionality of the FIG. 11. Alternatively, the selection of the subchannels within this functional block may be performed as directed by decoded information that is fed back from a forward error correction (FEC) processing functional block”

In Jaffe, either the selection of the sub-channel is “directed by a user (or subscriber)” or the selection of the sub-channel is “directed by decoded information that is fed back from a forward error correction (FEC) processing functional block”.

The Applicant respectfully points out that the pre-processing of Jaffe operates to generate the “stream of soft symbol decisions”; the “stream of soft symbol decisions” includes all possible sub-channels (and one of which will be selected), then all of these sub-channels (i.e., within the “stream of soft symbol decisions”) could be viewed as having the same “characteristics” at this point (i.e., before being provided to the “PHY sub-channel selection functional block” in FIG. 11 of Jaffe).

As such, the Applicant respectfully points out that it is one of these selection approaches above in Jaffe that serves to select the sub-channel; the pre-processing of Jaffe serves to generate the “stream of soft symbol decisions” (and not any confidence level as the Examiner asserts in the office action), and a sub-channel is selected from the “stream of soft symbol decisions” based on operations in the PHY sub-channel selection functional block.

As also cited above, in paragraph [0072], Jaffe teaches and discloses, “The received signal undergoes receiver pre-processing that may include: performing tuning to a particular frequency band, performing carrier frequency recovery, digital sampling using an analog to digital converter (ADC), generating I,Q inputs from a received sampled signal, and generating a stream of soft symbol decisions. The stream of soft symbol decisions is output from the receiver pre-processing functional block and is provided to a PHY sub-channel selection functional block.”

As also depicted in FIG. 11 of Jaffe, the Applicant respectfully points out that the PHY sub-channel selection functional block is used to perform the selection of the sub-channel by the 2 approaches described above: by a user or by decoded information fed back.

The Applicant claims subject matter that includes the intended PHY receiver, which is one of a plurality of PHY receivers, processes the received frame.

In contradistinction, Jaffe teaches and discloses the selection of one sub-channel (i.e., portion of a signal) from among many sub-channels within the signal that gets processed by only one FEC processing functional block.

As such, the Applicant respectfully asserts that Jaffe is deficient in teaching and disclosing the subject matter limitations as claimed by the Applicant.

The Applicant respectfully points out that the deficiencies of Shpak are many, including those deficiencies identified in the Applicant's response to the previous office action. The Applicant respectfully points out that Shpak explicitly teaches and discloses, and pictorially depicts, that not all of the PHY receivers perform any processing and/or pre-processing of a received signal and/or a received frame.

Shpak teaches and discloses:

“The triplexers similarly divide the uplink signals by frequency channel, so that the frequency channel of F1 is passed to PHY 33, F2 to PHY 34, and F3 to PHY 35.” (Shpak, in paragraph [0048], p. 4, emphasis added)

The entirety of the received signal and/or received frame is clearly not even provided to each of the “PHY 33”, “PHY 34”, and “PHY 35”. Rather, the “triplexers similarly divide the uplink signals by frequency channel, so that the frequency channel of F1 is passed to PHY 33, F2 to PHY 34, and F3 to PHY 35”.

As such, the Applicant respectfully believes that it is clear that the entirety of the received signal and/or received frame does not undergo any processing and/or pre-processing within each of the “PHY 33”, “PHY 34”, and “PHY 35”.

The very connectivity of the FIG. 3 of Shpak shows that all of a received frame is not provided to all of the “PHYs 33, 34 and 35”.

These comments made above are also applicable with respect to the Applicant's independent claims 23 and 28.

The Applicant respectfully believes that Shpak and Jaffe, when considered alone or on combination, fail to teach and disclose the Applicant's subject matter limitations that the Examiner identifies with respect to independent claims 1, 23, and 28.

The Applicant respectfully believes that the inclusion of Vaisanen and Gorday fail to overcome the deficiencies of Shpak and Jaffe.

Moreover, the Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter of allowable independent claims, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections to these claims under 35 U.S.C. § 103(a) as being unpatentable over Shpak in view of Vaisanen and further in view of Gorday and still further in view of Jaffe.

“4. Claims 8, 10, 13, 25, 30, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1), in view of Jaffe et al (US 2003/0231720 A1), in view of Vaisanen et al (US 2004/0192222 A1) and further in view of Gorday et al (US 2004/0203836 A1) and further in view of well known prior art (MPEP 2144.03).” (non-final office action, Part of Paper No./Mail Date 20070331, p. 7)

The Applicant respectfully traverses.

The comments made above with respect to Shpak and Jaffe are also applicable here.

The Applicant respectfully believes that the inclusion of Vaisanen and further in view of Gorday, and in further in view of the Examiner’s assertion of “well known prior art” do not overcome the deficiencies of Shpak and Jaffe with respect to independent claims 1, 23, and 28.

The Applicant respectfully believes that independent claims 1, 23, and 28 are allowable over Shpak, in view of Jaffe, in view of Vaisanen and further in view of Gorday and further in view of the Examiner’s assertion of “well known prior art”.

Moreover, the Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter of allowable independent claims, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections to these claims under 35 U.S.C. § 103(a) as being unpatentable over Shpak in view of Vaisanen and further in view of Gorday and further in view of well known prior art (MPEP 2144.03).

“5. Claims 4-5, 26, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1) in view of Jaffe et al (US 2003/0231720 A1), further in view of Vaisanen et al (US 2004/0192222 A1) and still further in view of Gorday et al (US 200410203836 A1) and further still in view of Rajamani et al (US 2004/0214539 A1).” (non-final office action, Part of Paper No./Mail Date 20070331, p. 10)

The Applicant respectfully traverses.

The comments made above with respect to Shpak and Jaffe are also applicable here.

The Applicant respectfully believes that the inclusion of Vaisanen and still further in view of Gorday and further still in view of Rajamani do not overcome the deficiencies of Shpak and Jaffe with respect to independent claims 1, 23, and 28.

The Applicant respectfully believes that independent claims 1, 23, and 28 are allowable over Shpak in view of Jaffe, further in view of Vaisanen and still further in view of Gorday and further still in view of Rajamani.

Moreover, the Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter of allowable independent claims, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections to these claims under 35 U.S.C. § 103(a) as being unpatentable over Shpak in view of Jaffe, further in view of Vaisanen and still further in view of Gorday and further still in view of Rajamani.

Allowable Subject Matter

The Examiner asserts:

“6. Claim 6, 7, 11, 12 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 64-80 are allowed.” (non-final office action, Part of Paper No./Mail Date 20070331, p. 11)

The Applicant respectfully traverses the objections to claims 6, 7, 11, 12 and 33.

In view of at least the comments submitted herewith, the Applicant respectfully believes that independent claims 1 and 28 are allowable.

The Applicant respectfully believes that dependent claims 6, 7, 11, 12 and 33, being further limitations of the subject matter as claimed in allowable independent claims, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the objections to these claims.

The Applicant respectfully agrees with the Examiner that claims 64-80 are allowable.

The Applicant respectfully believes that claims 1-13, 23-38, and 64-80 are in condition for allowance and respectfully requests that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present U.S. utility patent application.

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